

WHAT IS CLAIMED IS:

1. A method for modulating transcription factor-mediated gene expression comprising exposing said transcription factor to an effective amount of an inhibitory agent which binds to a linker domain of said transcription factor, wherein said linker domain is located adjacent to the DNA binding domain of the transcription factor, wherein the inhibitory agent binds with sufficient binding affinity to modulate transcription of a gene.
2. The method of claim 1, wherein said transcription factor has a DNA-binding domain distinct from an activation domain.
3. The method of claim 1, wherein said modulation comprises dissociation of the transcription factor from the DNA of said gene.
4. The method of claim 1, wherein said modulation comprises inhibiting binding of the transcription factor to the DNA of the gene.
5. The method of claim 1, wherein said transcription factor is a b-ZIP transcription factor.
6. The method of claim 1, wherein said transcription factor comprises a helix-loop-helix protein.
7. The method of claim 1, wherein said transcription factor comprises a zinc finger protein.

8. The method of claim 1, wherein said transcription factor is involved in a specific disease process selected from the group consisting of cancer and infectious disease.
9. The method of claim 1, wherein said transcription factor comprises an oncogenic fusion protein with a DNA-binding function.
- 5 10. The method of claim 9, wherein said fusion protein is a tumor specific fusion protein.
11. The method of claim 10, wherein said fusion in protein is specific for mesenchymal tumors.
12. The method of claim 9, wherein said fusion protein is encoded by a chromosomal translocation comprising two or more genes or portions of genes.
- 10 13. The method of claim 12, wherein one of said genes or said portion involved in the translocation is selected from the group consisting of genes encoding a b-ZIP transcription factor, helix-loop-helix protein and zinc finger protein.
14. The method of claim 9, wherein said fusion protein is EWS/ATF1.
15. The method of claim 9, wherein said fusion protein is EWS/FLI.
16. The method of claim 9, wherein said fusion protein is PAX/FKHR.

17. The method of claim 1, wherein said inhibitory agent is selected from the group consisting of an antibody, a subcomponent of an antibody, a peptide mimetic, and a non-peptide mimetic.

18. The method of claim 17, wherein said inhibitory agent is an antibody.

5 19. The method of claim 18, wherein said antibody is a monoclonal antibody.

20. The method of claim 17, wherein said inhibitory agent is a subcomponent of an antibody.

21. The method of claim 17, wherein said inhibitory agent is a peptide mimetic.

22. The method of claim 17, wherein said inhibitory agent is a non-peptide mimetic.

10 23. A method for screening molecules to identify transcription factor modulators, comprising performing electromobility shift assays with DNA in the presence of said molecule and the transcription factor of interest and evaluating the results for disruption of a shift or supershift of said DNA, wherein said transcription factor has a linker domain located adjacent to the DNA binding domain of the transcription factor.

15 24. A method for treating an individual having a transcription factor-mediated disease comprising administering to said individual an effective amount of a composition comprising an inhibitory agent which binds to a linker domain of a transcription factor and a

pharmaceutically acceptable carrier, wherein said linker domain is located adjacent to the DNA binding domain of the transcription factor, and wherein the inhibitory agent binds with sufficient binding affinity to the transcription factor to modulate transcription, and wherein said composition exhibits a therapeutically useful change in transcription factor-mediated cell behavior.

25. The method of claim 24, wherein said transcription factor mediated disease is a neoplasia selected from the group consisting of leukemias, lymphomas and sarcomas.
26. The method of claim 24, wherein said transcription factor mediated disease is an infectious disease.
27. The method of claim 24, wherein said inhibitory agent is selected from the group consisting of an antibody, a subcomponent of an antibody, a peptide mimetic, and a non-peptide mimetic.
28. The method of claim 27, wherein said inhibitory agent is an antibody.
29. The method of claim 28, wherein said antibody is a monoclonal antibody.
30. The method of claim 27, wherein said inhibitory agent is a subcomponent of an antibody.
31. The method of claim 27, wherein said inhibitory agent is a peptide mimetic.

32. The method of claim 27, wherein said inhibitory agent is a non-peptide mimetic.

33. An inhibitory agent, wherein said inhibitory agent binds to a linker domain of a transcription factor, wherein said linker domain is located adjacent to the DNA binding domain of said transcription factor, and wherein the inhibitory agent binds with sufficient binding affinity to said transcription factor to modulate transcription of a gene.

34. The inhibitory agent of claim 33, wherein said modulation comprises dissociation of the transcription factor from the DNA of said gene.

35. The inhibitory agent of claim 33, wherein said modulation comprises inhibiting binding of the transcription factor to the DNA of said gene.

36. The inhibitory agent of claim 33, wherein said inhibitory agent is selected from the group consisting of an antibody, a subcomponent of an antibody, a peptide mimetic, and a non-peptide mimetic.

37. The inhibitory agent of claim 36, wherein said inhibitory agent is an antibody.

38. The inhibitory agent of claim 37, wherein said antibody is a monoclonal antibody.

39. The inhibitory agent of claim 36, wherein said inhibitory agent is a subcomponent of an antibody.

40. The inhibitory agent of claim 36, wherein said inhibitory agent is a peptide mimetic.
41. The inhibitory agent of claim 36, wherein said inhibitory agent is a non-peptide mimetic.
42. The inhibitory agent of claim 33, wherein said transcription factor is a b-ZIP transcription factor.
43. The inhibitory agent of claim 33, wherein said transcription factor comprises a helix-loop-helix protein.
44. The inhibitory agent of claim 33, wherein said transcription factor comprises a zinc finger protein.
45. The inhibitory agent of claim 33, wherein said transcription factor comprises an oncogenic transcription factor that is a fusion protein with a DNA-binding function.
46. A method for modulating transcription factor-mediated replication of viruses comprising exposing said viruses to an effective amount of an inhibitory agent which binds to a linker domain of a transcription factor, said linker domain is located adjacent to the DNA binding domain of said transcription factor, wherein said inhibitory agent binds with sufficient binding affinity to modulate replication of said viruses.

47. The method of claim 46, wherein said modulation comprises dissociation of the transcription factor from the DNA of said gene.

48. The method of claim 46, wherein said modulation comprises inhibiting binding of the transcription factor to the DNA of said gene.

5 49. A method for modulating transcription factor-mediated cellular proliferation comprising exposing cells to an effective amount of an inhibitory agent which binds to a linker domain of a transcription factor, said linker domain is located adjacent to the DNA binding domain of the transcription factor, wherein said inhibitory agent binds with sufficient binding affinity to modulate proliferation of said cells.

10 50. The method of claim 49, wherein said modulation comprises dissociation of the transcription factor from the DNA of said gene.

51. The method of claim 49, wherein said modulation comprises inhibiting binding of the transcription factor to the DNA of said gene.

15 52. The method of claim 1, wherein said inhibitory agent is able to enter the nucleus and bind to said linker domain.

53. The inhibitory agent of claim 33, wherein said inhibitory agent binds to said linker domain of said transcription factor in the nucleus of a cell.

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